Amendments to the Claims

13. (New) An audio signal recording and reproducing system comprising:

first means for implementing matrix operation among first multiple-channel digital audio signals to generate second multiple-channel audio signals correlating with each other, the first multiple-channel digital audio signals relating to a same sampling frequency;

a lossless encoder subjecting the second multiple-channel signals to lossless encoding to convert the second multiple-channel signals into an encoding-resultant signal from which a decoding side can reproduce the second multiple-channel audio signals;

second means provided in the lossless encoder for selecting a first sample among samples of each of the second multiple-channel audio signals for every prescribed interval of frame;

third means provided in the lossless encoder for selecting one from each channel's different linear prediction methods and predictively encoding each of the second multiple-channel signals according to the selected one of each channel's different linear prediction methods, wherein each channel's different linear prediction methods are of predicting each of the second multiple-channel audio signals from a past condition of each of the second multiple-channel audio signals to generate each channel's different prediction signals for each of the second multiple-channel audio signals, and generating each channel's prediction-error signals representing differences between each of the second multiple-channel audio signals and each channel's different prediction signals respectively, and wherein each channel's linear prediction method selected by the third means generates a smallest of each channel's prediction-error signals;

fourth means provided in the lossless encoder for generating a signal of a predetermined format having a header information area and a user data area, and

loading the user data area with the first samples selected by the second means, the smallest each channel's prediction-error signal generated by the third means, and an information piece representing each channel's linear prediction method selected by the third means;

recording means for recording said signal on a recording medium;

a lossless decoder subjecting the input audio signal to lossless decoding to reproduce original audio information therefrom;

extracting means provided in the lossless decoder for extracting the smallest each channel's prediction-error signal;

calculating means provided in the lossless decoder for calculating a prediction value of the each channel from the smallest each channel's prediction-error signal extracted by the extracting means; and

reproducing means for reproducing the first multiple-channel audio signals from the prediction values calculated by the calculating means.

14. (New) An audio signal recording and reproducing system as recited in claim 13, wherein the signal of the predetermined format contains an information piece representing a frame header of said frame.

15. (New) A method of network-based communication, comprising the steps of:

receiving a signal of a predetermined transmission packet format from a communication line, wherein the signal has been generated by an audio signal encoding apparatus comprising:

first means for implementing matrix operation among first multiple-channel digital audio signals to generate second multiple-channel audio signals correlating with each other, the first multiple-channel digital audio signals relating to a same sampling frequency;

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a lossless encoder subjecting the second multiple-channel signals to lossless encoding to convert the second multiple-channel signals into an encoding-resultant signal from which a decoding side can reproduce the second multiple-channel audio signals;

second means provided in the lossless encoder for selecting a first sample among samples of each of the second multiple-channel audio signals for every prescribed interval of frame;

third means provided in the lossless encoder for selecting one from each channel's different linear prediction methods and predictively encoding each of the second multiple-channel signals according to the selected one of each channel's different linear prediction methods, wherein each channel's different linear prediction methods are of predicting each of the second multiple-channel audio signals from a past condition of each of the second multiple-channel audio signals to generate each channel's different prediction signals for each of the second multiple-channel audio signals, and generating each channel's prediction-error signals representing differences between each of the second multiple-channel audio signals and each channel's different prediction signals respectively, and wherein each channel's linear prediction method selected by the third means generates a smallest of each channel's prediction-error signals;

fourth means provided in the lossless encoder for generating a signal of a predetermined format having a header information area and a user data area, and loading the user data area with the first samples selected by the second means, the smallest each channel's prediction-error signal generated by the third means, and an information piece representing each channel's linear prediction method selected by the third means; and

recovering said signal of the predetermined format generated by the lossless encoder from the signal of the transmission packet format.

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16. (New) A method of network-based communication as recited in claim 15, wherein the signal of the predetermined format contains an information piece representing a frame header of said frame.

Amendments to the Specification

Insert after the title of the invention:

RELATED APPLICATIONS

This application is a divisional of U.S. application No. 10/096,276, filed March 13, 2002 which in turn is a divisional of U.S. application No. 09/394,688, filed September 13, 1999 now U.S. patent number 6,463,410.

Page 46, third full paragraph:

The embodiment of Fig. 15 includes a lossless encoder 2E and a lossless decoder 3E which replace the lossless encoder 2D and the ~~loss~~ lossless decoder 3D (see Fig. 1) respectively. The lossless encoder 2E follows a channel correlation circuit "A". The lossless decoder 3E precedes a channel correlation circuit "B".

Respectfully submitted,

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